

ABSTRACT OF THE DISCLOSURE

In a conventional optical waveguide using a photonic crystal, loss of light occurs in the substrate therebelow. The invention provides an optical waveguide comprising a substrate, a core portion formed on the substrate, and clad portions arranged on the substrate so that the core portion is sandwiched therebetween. The clad portions each have a periodic structure which exhibits a periodic variation in refractive index in a direction perpendicular to a light propagation direction, and at least one of the periodic structures is inclined with respect to a surface of the substrate so that an interval between the periodic structures is gradually reduced toward the substrate. The slim, compact optical waveguide can be fabricated in a relatively simple and easy process, incurs lower loss, offers satisfactory light propagation characteristics, and has adequate mechanical strength.

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